

# **How to be a Successful Graduate Student: An Advisor's Perspective**

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**MSU Graduate Women in  
Science & Engineering**

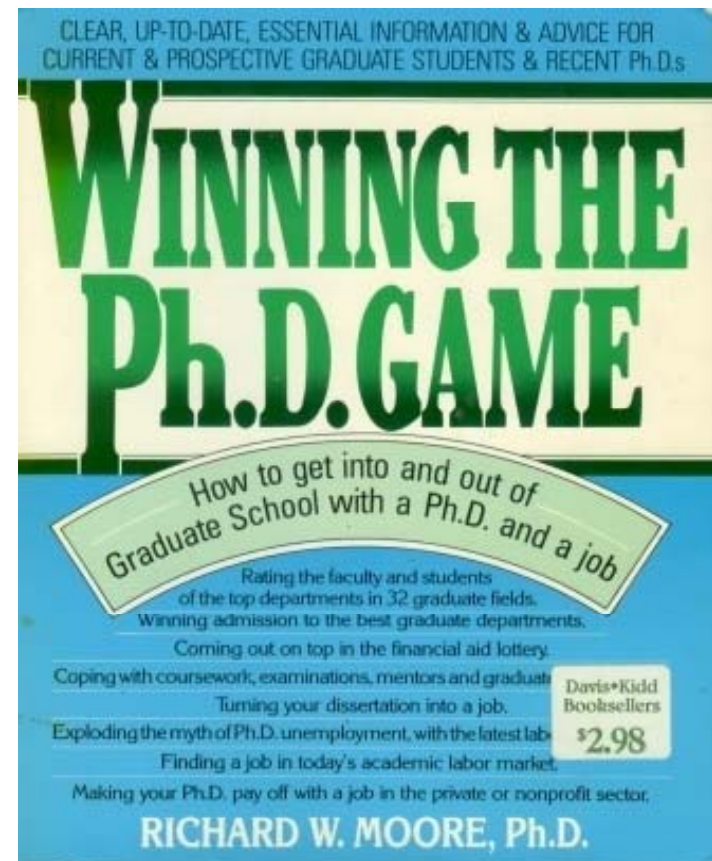


# Outline

- *Introduction, Motivation*
- **The Psychology of Graduate School**
- **How to Fail in Graduate School**
- **How to Succeed in Graduate School**
- **Two Big PhD Hurdles**
- **What Does your Advisor Want?**

# Why Listen to Me?

- I was a graduate student for 7 years...
- I have been a scholar of effective graduate studies
- I am still interested in this topic
- Numerous excellent web articles are easily found



# The Purpose of Graduate Study

- **M.S.:**
  - **Courses-only, professional:** advanced study of specialized subfield, establish professional credentials
  - **Thesis:** begin learning how to be a scholar
- **Ph.D.:**
  - Learn to become a **scholar**
- **What is scholarship?**
  - Creative intellectual activity
  - Which is **reviewed** by professional peers
- **This talk: “Graduate Study” = MS (thesis) / PhD**

# Why Pursue Graduate Studies in Engineering?

- In order to find a job?

**NO!!!**

(in fact, often easier to find a job without a PhD)

- So why do it?
  - To become a **scholar**
  - To pursue a career as a **scientist**
  - To pursue a career as an **educator**

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# Types of Graduate Students

- **(1) Scholarly Students**
  - Passionate about subject
  - Intellectual stimulation more important than career potential
- **(2) Career Students**
  - Grad degree plays logical role in career plan
  - Skeptical but ready to play the game
  - Want an interesting career, but not just about money
- **(3) Confused Students**
  - In grad school for reasons other than (1) or (2)
    - E.g.: significant other a student; don't want to join "real world"
  - Common in early years, but won't successfully finish
- **The Point: Why are you in grad school?**
  - To succeed, need combination of (1) and (2)

# Grinds and Gamers

Grinds

Gamers



- **Which will succeed?**
  - Actually, both
- **These are extremes — most people are somewhere in between**



# **Graduate School is Stressful**

- **Low Status**
- **Uncertain Pay**
- **Low Pay**
- **Loneliness**
- **Competition and Fear of Failure**
- **Fear of the Future**

# Technical Skills and People Skills

**Technical Skills**

**People Skills**

- **For graduate school success, which is more important?**
- **Speaking and writing more important than technical skills**
- **If first language not English, special challenge here**
- **Advice: learn to write, learn to orally present**
  - **Opportunities to learn exist in grad school**

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# (1) Insufficient Motivation



- Job
  - Career
- 
- Your thesis / dissertation must be a career.
  - Motivation flows from original motivation for graduate study...cannot be a “confused student”
  - “Why am I doing this?” → must have good answer

## **(2) Suffer From the Four Deadly Sins of Graduate School**

- **The sin of stubbornness**
- **The sin of compliancy**
- **The sin of comparison**
- **The sin of procrastination**

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# Understand that Academia is a Business



- Learning
  - Service
  - Research
- 
- Money to support graduate students given to university to provide specific deliverables
  - Responsible faculty **must** produce these deliverables or money goes away
  - Take TA / AA / RA support **very** seriously!

# Understand that Graduate School is Very Different From Undergraduate School

- **Phase 1: taking classes:**
  - Everything is laid out. Deadlines are definite. Everything is over at the end of the semester. You are good at this.
- **Phase 2: working on thesis or dissertation:**
  - No clear structure; no clear deadlines. Advisor doesn't know exactly what to do. It's up to you to create the structure.
- **Big challenge:** transition from phase 1 to phase 2



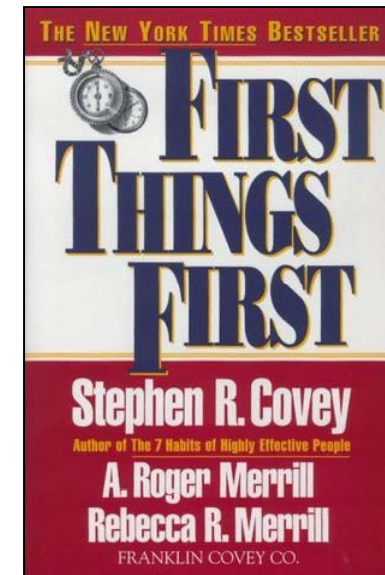
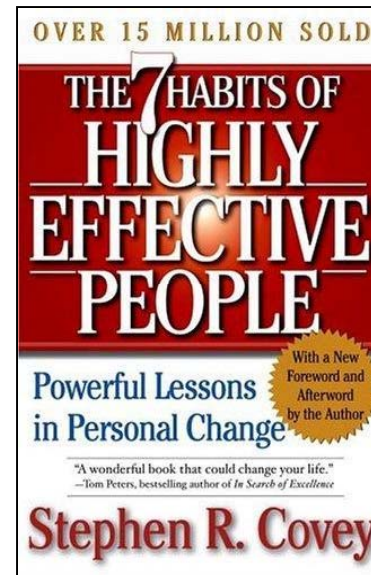
# Effectively Manage Your Time and Priorities

- Study the field of time and priority management
- Many excellent books and resources:

Randy Pausch time  
management lecture:



Books by Steven Covey:



✓ Auburn Visit

	Work Feb 3-9		Feb 10-16		Feb 17-23		Feb 24-1		Total	
CHRI	0	0%	0	0%	3	8%	0	0%	3	2%
Dissertation	3.5	6%	0	0%	2	5%	3	8%	8.5	5%
Class	1	2%	0	0%	0	0%	1.5	4%	2.5	1%
Conference	0	0%	0	0%	0	0%	0	0%	0	0%
Household	0.5	1%	1.5	3%	0	0%	6	17%	8	4%
Music	0.75	1%	2	4%	0	0%	3.5	10%	6.25	4%
Errand	0	0%	0	0%	0	0%	0	0%	0	0%
Admin	1.25	2%	0	0%	1	3%	4.5	13%	6.75	4%
Review	0	0%	0	0%	0	0%	0	0%	0	0%
Teach	19	34%	8	17%	3	8%	10.25	29%	40.25	23%
Job Search	26.5	47%	35.5	76%	28.5	72%	7	20%	97.5	55%
Illness	3.5	6%	0	0%	2	5%	0	0%	5.5	3%
<b>total</b>	<b>56</b>		<b>47</b>		<b>39.5</b>		<b>35.75</b>		<b>178.3</b>	

	Work Mar 2-8		Mar 9-15		Mar 16-22		Mar 23-29		Total	
CHRI	0	0%	0	0%	0	0%	0	0%	0	0%
Dissertation	3	6%	17.5	44%	0	0%	6.5	19%	27	21%
Class	1.5	3%	1	3%	0	0%	0	0%	2.5	2%
Conference	0	0%	0	0%	0	0%	0	0%	0	0%
Household	1.75	4%	0	0%	0	0%	0	0%	1.75	1%
Music	5.75	12%	4.5	11%	0	0%	0.5	1%	10.75	8%
Errand	0	0%	0	0%	0	0%	2.5	7%	2.5	2%
Admin	2.5	5%	2	5%	0	0%	0	0%	4.5	3%
Review	0	0%	0	0%	0	0%	0	0%	0	0%
Teach	20.5	41%	13	33%	8	100%	18.5	54%	60	46%
Job Search	15	30%	1.5	4%	0	0%	4	12%	20.5	16%
Illness	0	0%	0	0%	0	0%	2	6%	2	2%
<b>total</b>	<b>50</b>		<b>39.5</b>		<b>8</b>		<b>34</b>		<b>131.5</b>	

	Work Jun29-Jul5		Jul 6-12		July 13-19		July 20-26		Jul27-Aug2		Total	
CHRI	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Dissertation	16.5	42%	22.5	51%	5.75	14%	7	13%	20.25	39%	72	31%
Class	0	0%	0	0%	0	0%	0	0%	1.5	3%	1.5	1%
Conference	0	0%	0	0%	0	0%	0.75	1%	0	0%	0.75	0%
Household	4.25	11%	1	2%	0	0%	0	0%	2	4%	7.25	3%
Music	1	3%	0.5	1%	2	5%	0	0%	1.5	3%	5	2%
Errand	0.5	1%	4.5	10%	2.25	6%	1.5	3%	0.5	1%	9.25	4%
Admin	2	5%	0.5	1%	0	0%	2	4%	0.5	1%	5	2%
Review	5	13%	0	0%	0	0%	0	0%	1.5	3%	6.5	3%
Teach	8.5	21%	12	27%	15	37%	5	9%	14.75	28%	55.25	24%
Job Search	1	3%	2	4%	10	25%	38	69%	3	6%	54	23%
Illness	1	3%	1.5	3%	5.5	14%	0.5	1%	7	13%	15.5	7%
total	39.75		44.5		40.5		54.75		52.5		232	

total 36.25

35.25

43.5

43

158

→ Still need lots of face time with dissertation  
 → Try to work on it every day!

97 Time Summary

*↓ Dad's Blog ↓*

	Work Jan 4-10		Jan 11-17		Jan 18-24		Jan 25-31		Total	
Pt-Based	9	17%	16	37%	15	36%	21.5	43%	61.5	33%
Dissertation	29	56%	4	9%	18	43%	19	38%	70	37%
Class	0	0%	0	0%	0	0%	0	0%	0	0%
Conference	0	0%	0	0%	0	0%	0	0%	0	0%
Household	1	2%	5	12%	0	0%	0	0%	6	3%
Music	2	4%	7	16%	4	10%	3.5	7%	16.5	9%
Errand	1	2%	0	0%	0	0%	0	0%	1	1%
Admin	2.25	4%	0	0%	0	0%	2.5	5%	4.75	3%
Review	0	0%	0	0%	0	0%	2	4%	2	1%
Planning/Process	0	0%	3	7%	1	2%	1	2%	5	3%
Job Search	8	15%	8.25	19%	4	10%	0.5	1%	20.75	11%
Illness	0	0%	0	0%	0	0%	0	0%	0	0%
Memories/Friends	0	0%	0	0%	0	0%	0	0%	0	0%
<b>total</b>	<b>52.25</b>		<b>43.25</b>		<b>42</b>		<b>50</b>		<b>187.5</b>	

*totals  
131.5 70%*  
↓  
*unparalleled*

	Work Feb 1-7		Feb 8-14		Feb 15-21		Feb 22-28		Total	
Pt-Based	12.5	24%	10	21%	24	53%	3	6%	49.5	25%
Dissertation	30	58%	32	66%	15.5	34%	43	84%	120.5	61%
Class	0	0%	0	0%	0	0%	0	0%	0	0%
Conference	1	2%	1.5	3%	0	0%	0	0%	2.5	1%
Household	0	0%	0	0%	0	0%	0	0%	0	0%
Music	5	10%	2	4%	4	9%	5	10%	16	8%
Errand	1	2%	0	0%	1.5	3%	0	0%	2.5	1%
Admin	1.5	3%	0	0%	0	0%	0	0%	1.5	1%
Review	0	0%	0	0%	0	0%	0	0%	0	0%
Planning/Process	1	2%	0	0%	0	0%	0	0%	1	1%
Job Search	0	0%	3	6%	0	0%	0	0%	3	2%
Illness	0	0%	0	0%	0	0%	0	0%	0	0%
Memories/Friends	0	0%	0	0%	0	0%	0	0%	0	0%
<b>total</b>	<b>52</b>		<b>48.5</b>		<b>45</b>		<b>51</b>		<b>196.5</b>	

*totals  
170 86%*  
↓  
*even better*

# **Be a Scholar of Graduate School Success**

- **Be a scholar of the graduate education process**
- **Read books and web essays**
- **Talk to your advisor, talk to your fellow students**
- **Attend graduate student symposia at conferences**
- **Work in groups**
- **Read successful theses / dissertations from this department and other universities**
- **Know your program's requirements and deadlines**

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# **(1) Passing the PhD Qualifying Exam**

- **Different than any test you've ever taken before**
- **Don't underestimate study time**
  - I studied 8 to 14 hours / day for 6 weeks straight
- **Most students take it twice**
  - Because they don't prepare properly the first time
- **Read the books and work the old exams**
- **Get a lot of sleep the night before the night before the exam**
- **Study with others! Study with others! Study with others! (most important advice of all!)**

## (2) Choosing a Thesis Topic

- You may be tempted to:
  - Create your own topic
  - Look for the “perfect” topic
- Ed’s advice: don’t do this. **Much easier** to adopt your advisor’s research goal as your goal.
  - Advisor can really help you with topic
  - Advisor can also help you professionally network
- **Remember:** dissertation is just the beginning of your research career, not the end.



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# Results!

- Advisors value **results** above all else
- **Results** in class = good grades
- **Results** on RA =  
fulfill project goals and refereed publications
- **Results** on thesis / dissertation =  
refereed publications

# Take TA / RA Support Seriously

- **TA Support:**
  - Teaching must be effective
- **RA Support:**
  - Must spend 20 / hours per week fulfilling grant goals
  - Must achieve results: affects advisor's / department's / university's reputation; damaged reputation = lost revenue
- **Understand that RA support not the same as a fellowship: purpose beyond supporting your studies.**

# Effectively Manage Yourself

- **Write things down**
- **When's your next meeting?**
- **What's my goal to have done by then?**
- **Who to turn to for help?**

# Talk to Advisor at Research Level, not Process Level

- **Research Level:**
  - What we will do, why we will do it
  - Research question, research approaches, results from other groups, strategies, etc.
- **Process Level:**
  - How we will implement it, technical details
  - Language issues, Statistics issues, Computer issues, Hardware issues
- **Allows your advisor to most effectively help you**

# **Work with Junior Advisees**

- **Senior advisees work with junior advisees**
- **Junior advisees can help you achieve your dissertation**
- **Great training for anyone who might one day be an advisor**

# Communicate with Your Advisor

- Advisor cannot read your mind
- We want to know about problems;  
can't help if we don't know about it
- Talk at **least** several times a semester
- Don't avoid your advisor for months at a time  
because of a lack of results
- Just talk to us...

# **For You to Succeed!!**

- **It's great fun to watch students grow and achieve their goals**
- **Your success =  
our success,  
department's success,  
university's success**
- **We enjoy working with students!!**



# References

- Richard W. Moore, *Winning the PhD Game*, Dodd, Mead & Co., New York, NY, 1985.
- Stephen R. Covey, A. Roger Merrill, Rebecca R. Merrill, *First Things First*, Fireside, New York, NY, 1994.
- Ronald Azuma, *So Long, and Thanks for the Ph.D.!*, web-published essay, <http://www.cs.unc.edu/~azuma/hitch4.html>